

## Section 1410

Unless otherwise noted in the plans, rigid galvanized steel conduit is intended for use in above ground applications only.

### 1409-4 MEASUREMENT AND PAYMENT

*Electrical Duct (Size and Type)* will be measured and paid as the actual number of linear feet of duct, measured in place to the nearest whole foot, installed and accepted.

Payment will be made under:

Pay Item	Pay Unit
Electrical Duct, (Size & Type) _____	Linear Foot

## SECTION 1410 FEEDER CIRCUITS

### 1410-1 DESCRIPTION

Furnish and install all conductors and conduit, including tools, equipment, trenching and backfilling to provide electrical circuits at locations shown in the plans.

### 1410-2 MATERIALS

Refer to Division 10.

Item	Section
Conduit	1091-3
Wire and Cable	1091-2, 1400-2

Use UL listed, Type USE wire for feeder circuits in conduit. The equipment grounding conductor may be bare or insulated. Use conductors which are copper and in accordance with Subarticle 1400-2(C). Give careful attention to the required color code. Do not mark a white conductor in a cable assembly any other color; however, a white conductor may be stripped at all accessible points and used as a bare equipment grounding conductor.

Provide metallic (rigid galvanized steel) and non-metallic (PVC or HDPE) conduit in accordance with the Subarticle 1400-2(B) with the appropriate type being used at locations as shown in the plans.

### 1410-3 CONSTRUCTION METHODS

Install feeder circuits in continuous runs, without splices, except at junction boxes or within light standard bases.

Install conductors in accordance with the Subarticle 1400-4(F) and conduit in accordance with the Subarticle 1400-4(E).

Excavate trenches to depths and widths as shown in the plans with essentially vertical walls and as straight as possible, when underground feeder circuits are required. Locate underground feeder circuits a minimum of 6 ft back of the face of curb or outside the limits of the paved shoulder and stone base, as directed. Use care to prevent conflict with existing or future guardrails, sign posts, delineators and similar devices.

Surround the underground feeder circuit in conduit with clean soil and use backfill free of rocks and other objectionable materials which might damage the conduit. This will require partial backfilling by hand in areas where it is likely that objectionable materials will be included if mechanical methods of backfilling are used.

Perform all necessary search methods, including, but not limited to, use of underground metal detection equipment and excavation equipment, to locate existing electrical duct. Locate the duct and perform all necessary work including cleaning of the duct before installation of proposed circuits.

When a feeder circuit in conduit passes through electrical duct, make the conduit continuous through the duct unless specifically noted otherwise in the plans. After feeder circuits in conduit are extended through duct, plug the duct with oakum or duct seal.

When only feeder circuits are required, install the load current carrying conductors and grounding conductors in either existing conduit or conduit installed under other contract items.

When more than one circuit is installed in a single raceway, a single equipment grounding conductor sized as required for the largest circuit may be used without change in the contract unit bid prices.

Multiple circuits may be placed in the same trench if they are grouped and separated a minimum distance of 3". When more than one circuit is installed in the same trench there will not be any adjustment of the contract unit bid prices.

#### 1410-4 MEASUREMENT AND PAYMENT

\_\_\_\_ *Feeder Circuits* will be measured and paid as the actual number of linear feet of each size and type feeder circuit completed and accepted. Measurement will be to the nearest whole foot from electrical terminal to electrical terminal of the longest load current carrying conductor.

*Feeder Circuit in* \_\_\_\_ *Conduit* will be measured and paid as the actual number of linear feet of each size and type feeder circuit completed and accepted. Measurement will be to the nearest whole foot from electrical terminal to electrical terminal of the longest load current carrying conductor.

Payment will be made under:

Pay Item	Pay Unit
____ Feeder Circuit	Linear Foot
____ Feeder Circuit in ____ Conduit	Linear Foot

## SECTION 1411 ELECTRICAL JUNCTION BOXES

### 1411-1 DESCRIPTION

Provide junction boxes made from fiberglass reinforced polymer concrete and cast-metal boxes encased in concrete of the appropriate type at locations noted in the plans, complete with all necessary covers, conduits, duct and hardware, in accordance with the contract.

### 1411-2 MATERIALS

Refer to Division 10.

Item	Section
Backfill	545, 1005
Electrical Junction Boxes	1091-5

Provide a polymer concrete junction box which is open bottom with a foot. Provide a standard "Electric" logo on the cover unless specifically noted otherwise in the plans. Backfill beneath and around the boxes using ABC in conformance with Section 1005.

### 1411-3 CONSTRUCTION METHODS

Install conduits and duct before the polymer concrete (PC) boxes are set in place. Do not rest the bottom of the box directly on conduits, ducts or cables.